

## REMARKS

This Amendment is filed in response to the Office Action dated December 27, 2006, which has a shortened statutory period set to expire March 27, 2006.

### Allowable Subject Matter

Applicant greatly appreciates the Examiner's indication of allowable subject matter. Specifically, Claims 2-5, 15-18, and 80-82 are allowed.

### Claim Amendments Clarify Applicant's Invention

Claims 8, 9, 12, 13, 20, 21, 24, and 25 are amended herein, thereby clarifying Applicant's invention. Specifically, Claims 8, 12, 20, and 24 recite:

wherein the step of changing in the transmitter the number of carriers in active use includes the step of dynamically informing the transmitter of those carriers that were used in the initial number of carriers and will not be used in the subsequent number of carriers by placing zero magnitude signals on those carriers within the transmitter, wherein each carrier is individually selected to be used/not used.

Claims 9, 13, 21, and 25 recite:

wherein the step of changing in the transmitter the number of carriers in active use includes the step of dynamically informing the transmitter of those carriers that were not used in the initial number of carriers and will be used in the subsequent number of carriers by placing data conveying signals into those carriers that previously had zero magnitude signals within the transmitter, wherein each carrier is individually selected to be used/not used.

Applicant respectfully submits that the cited references, either individually or in combination, fail to teach the above limitations. The Office Action cites col. 5, lines 5-58 and col. 7, line 13 to col. 8, line 8 of Uesugi as teaching these

limitations. In col. 5, lines 5-8, Uesugi teaches that the sub-carriers are selected at intervals of a power of 2 and assigned if an amount of information to be transmitted is small. Uesugi then explicitly teaches two sub-carrier assignments shown in FIGS. 4 and 5. Col. 5, lines 16-52. Specifically, FIG. 4 illustrates using 16 sub-carriers to be divided by two users (A, B), whereas FIG. 5 illustrates using 16 sub-carriers to be divided by four users (A, B, C, D).

Notably, as taught by Uesugi, apparatus 105 is rearranged such that the sub-carriers are rearranged to have intervals of the power of 2. Col. 5, lines 59-61. IFFT apparatus 106 and P/S converter 107 set the number of sub-carriers and that of samples to be variable in unit of the power of 2 (e.g.  $N$ ,  $N/2$ ,  $N/4$ , etc.). Col. 5, lines 62-64. Other embodiments of Uesugi also teach only assigning the sub-carriers at intervals of the power of 2. See, for example, col. 6, lines 53-54, col. 8, lines 28-36, col. 9, lines 55-60, col. 11, lines 7-18.

Col. 7, line 13 to col. 8, line 8 teaches serial transmission data (of users A, B, C, and D) being converted to parallel data using P/S converters, that parallel data being converted to data of a time region by IFFT apparatus, that converted data being converted to serial data using P/S converters, and that serial data being converted to analog signals using D/A converters. As taught by Uesugi, the inverse Fourier transform is performed with respect to the number of sub-carriers, which has been varied depending on the number of converted parallel signals. Col. 8, lines 1-4. Notably, this passage does not change the teaching of Uesugi with respect to assigning sub-carriers at intervals of the power of two.

In contrast, Applicant teaches a technique in which, in any given situation, a subset of the carriers can be used by simply inputting zero magnitude signals on the carriers that are not to

be used. Specification, page 6, lines 1-2. See, for example, FIG. 8, in which each carrier can be selectively used ( $d_0$ ,  $d_1$ , etc.) or selectively not used (0). Thus, in Applicant's technique, each carrier is individually selected to be used/not used by dynamically informing the transmitter.

Applicant notes that neither van Nee nor Levin can remedy this deficiency of Uesugi.

Because the cited references fail to disclose or suggest the recited limitations of Claims 8, 9, 12, 13, 20, 21, 24, and 25, Applicant requests reconsideration and withdrawal of the rejection of these claims.

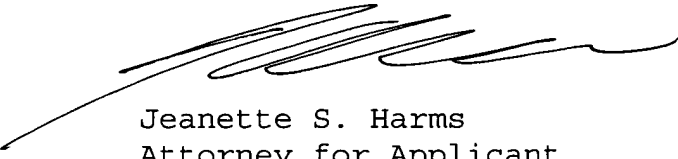
CONCLUSION

Claims 2-5, 8, 9, 12, 13, 15-18, 20, 21, 24, 25, and 80-82 are pending in the present application. Allowance of these claims is respectfully requested.

If there are any questions, please telephone the undersigned at 408-451-5907 to expedite prosecution of this case.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service as FIRST CLASS MAIL in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on March 13, 2006.

3/13/2006  
Date

Rebecca A. Baumann  
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